



REPUBLIC OF MALAWI

Department of Climate Change and Meteorological Services

10-day Weather and Agrometeorological Bulletin

In support of national early warning systems



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HIGHLIGHTS

- Moderate to heavy rains caused above average rainfall ...
- Maize crop doing well between vegetative and flowering stages...
- Widespread rains to persist during first ten days of February 2013...

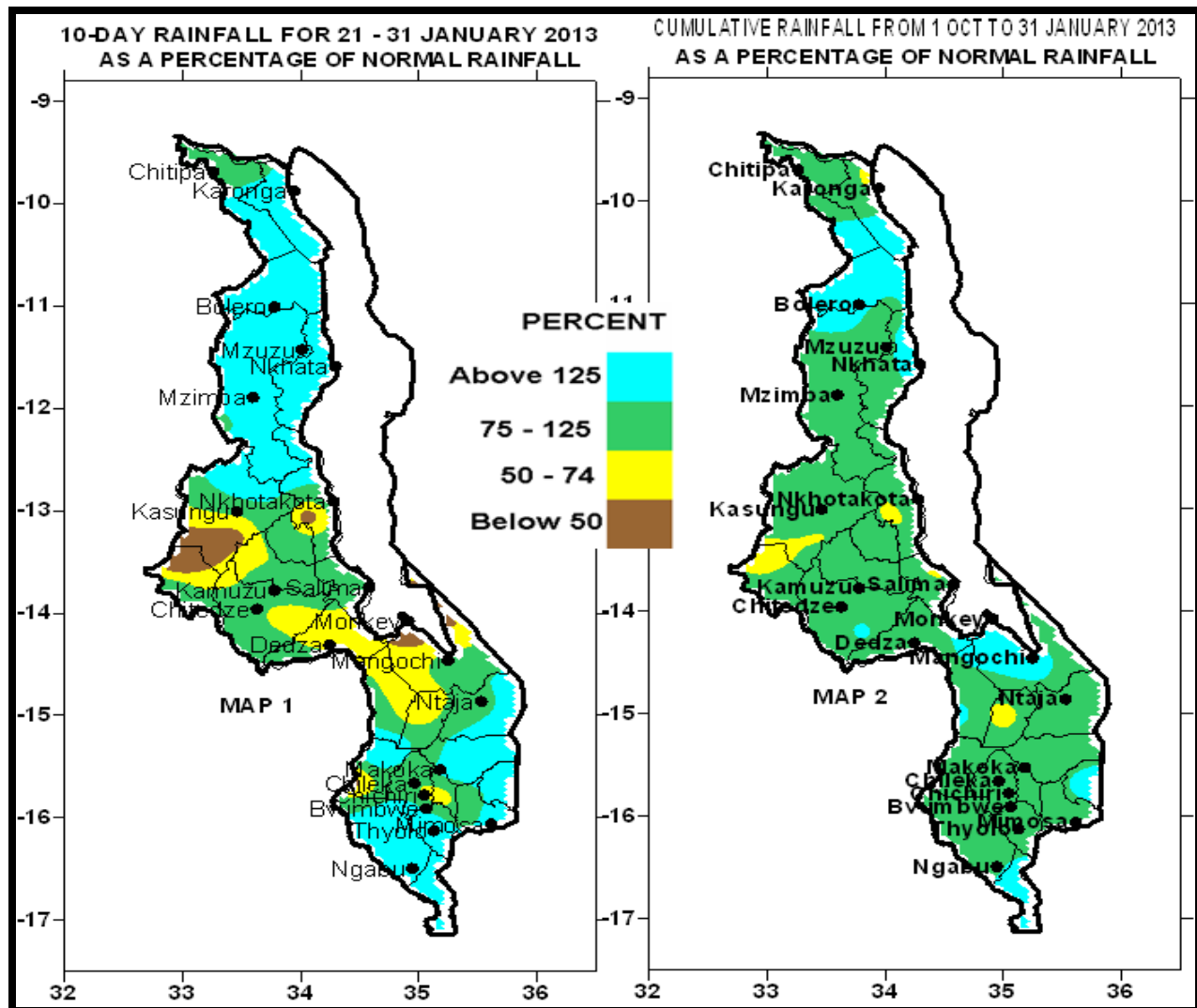


Figure 1: Rainfall Maps for Malawi for 21 – 31 January 2013

1.0 WEATHER SUMMARY AND IMPACTS

1.1 RAINFALL SITUATION

Widespread rains were experienced in Malawi during the period 21 to 31 January 2013. These rains were due to the combined effect of the two main rain-bearing systems namely Congo Air mass and Inter Tropical Convergence Zone. Very high rainfall amounts exceeding 150mm were reported in most areas particularly in the south and north during this period under review. These high amounts exceeded the rainfall amounts expected in most parts of the country. The rainfall intensity and amounts were higher than those experienced during the second ten days of January 2013. A few areas had accumulated rainfall amounts of over 200mm and such areas included Chancellor College, Lujeri, Mulanje Boma, Neno and Zomba Agric stations in the south and Nkhata Bay Met in the north (see Table 1) and this represented above normal rainfall situation (represented by light blue colours on Map 1). Average number of rainy days was six compared to four in the previous dekad.

Map 2 depicts the situation of cumulative rainfall performance for the country since 1 October 2012. From the map, most areas in Malawi have achieved normal to above normal cumulative rainfall by end of January 2013 (green and light blue colours on Map 2). However, a few pockets of below average rainfall (less than 75% of the expected cumulative rainfall amounts) still existed. For more details also refer to Table 1.

1.2 VEGETATION CONDITION

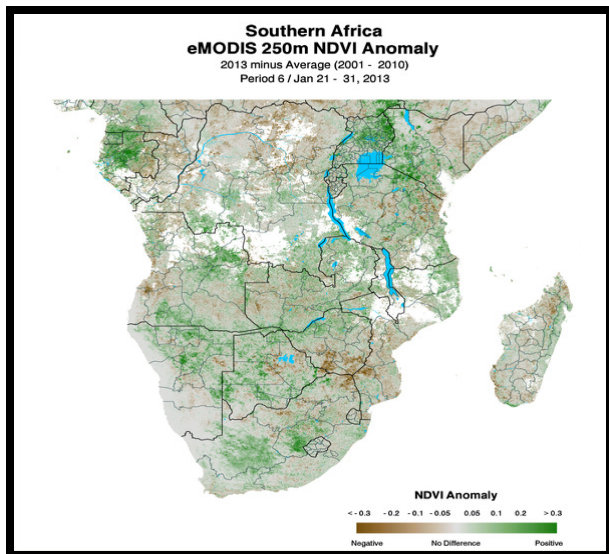


Figure 2: Vegetation Condition over Southern Africa

The vegetation difference from long term average map for Southern Africa for the period 21 to 31 January 2013 showed continued improvement in most areas. (Figure2). Pockets of negative anomalies are closing up in the region. This has been attributed to normalization of the main rainfall seasons as a result of the gradual improvement in rainfall performance.

1.3 AIR TEMPERATURE

Generally warm to hot temperatures continued to be experienced over the country during the third ten days of January 2013. Mean maximum temperatures ranged from 22.7°C at Dedza to around 30.8°C at Ngabu. Compared to the previous dekad, maximum temperatures this time were still lower due to increased cloud cover and the rainfall that was being received. Mean minimum temperatures ranged from around 15.2°C at Dedza to 22.9°C at Monkey Bay (Table 2). The highest absolute maximum temperature for the period was about 34°C, observed at Ngabu in Shire Valley on 21 January 2013.

1.4 WIND SPEEDS

Mean wind speeds at a height of two metres above the ground level ranged from 0.7 to 2.4 metres per second. The lowest mean wind speed was reported at Nkhata Bay while the highest mean wind speed was recorded at Mzuzu Airport Refer to Table 2.

1.5 RELATIVE HUMIDITY

During the period under review, air over Malawi was generally humid. Mean daily relative humidity values ranged from 71% at Karonga to 86% at Bvumbwe. See more details in Table 2.

2.0 AGROMETEOROLOGICAL ASSESSMENT

During the third ten days of January 2013, there was a great improvement in rainfall intensity and amounts across the country. These rains were generally favourable for crop and pasture development, as well as regeneration of the natural vegetation. The rains were also good for replenishing ground water levels. Crops were at various growth and development stages ranging from vegetative to maturity stages. On farm activities ranged from weeding to applying basal and top dressing fertilizers. In most parts of the country, the maize crop was reported to be doing well and if good rainfall performance continues up to February and March then

good harvests are inevitable in most parts of Malawi. For Agriculture Development Division (ADD) agrometeorological assessment refer to the following paragraphs:

2.1 SHIRE VALLEY ADD

Moderate to heavy rains were received in the ADD causing above average rainfall situation. These rains were favourable for crop and pasture development as well as regeneration of the natural vegetation. The main agricultural activities in the ADD included application of basal and top dressing fertilizer application and weeding. Maize crop ranged from vegetative to tasseling and cob formation stages

2.2 BLANTYRE ADD

Good rains for agricultural production were experienced in the entire ADD. Most areas had registered high intensity rainfall. These rains continued to satisfy crop water requirements and supported crop growth and development. The Maize crop was reported doing well particularly where fertilizer has been applied. Reports from the districts indicated that the major agricultural activities during the period under review included weeding and top dressing fertilizer application. Maize crop was reported ranging from advanced vegetative stages to maturity stages.

2.3 MACHINGA ADD

Generally moderate to heavy rainfall was received in most parts of Machinga ADD during the period under review. Some farmers were reported applying top dressing fertilizer to late planted crops. The major agricultural activities in the ADD included weeding. Maize crop was reported in good condition and ranging from vegetative to cobbing and maturity stages.

2.4 LILONGWE ADD

Most parts of the Lilongwe ADD had recorded moderate rainfall during the period 21 to 31 January 2013. These rains had supported crop growth and development of most crops as well as basal and top dressing fertilizer application. The major agricultural activities in the ADD included weeding, banking, basal and top fertilizer dressing. Maize crop was reported between vegetative and tasselling and flowering stages.

2.5 SALIMA ADD

During the period under review Salima ADD had received moderate rainfall. Reports indicated that weeding and application of basal dressing of fertilizers were in progress in most areas of the ADD. Maize crop was reported to be mostly at vegetative stage.

2.6 KASUNGU ADD

Generally moderate to heavy rainfall was recorded in most parts of Kasungu ADD. These rains supported growth and development of crops. Maize crop ranged from vegetative to tasseling stages. Agricultural activities

in the ADD included banking and top dressing fertilizer application.

2.7 MZUZU ADD

Most areas in Mzuzu ADD had received moderate to heavy rains during the third ten days of January 2013. Maize crop in the ADD ranged from vegetative to tasseling and flowering stages. Agricultural activities in Mzuzu ADD included weeding and fertilizer application.

2.8 KARONGA ADD

Karonga ADD had received moderate to heavy rains during the period under review. Weeding and basal fertilizer dressing were in progress in most EPAs. The maize crop in Karonga ADD had ranged from vegetative to tasseling stages.

3. PROSPECTS FOR 2012/13 RAINFALL SEASON

The summary of the 2012/2013 rainfall outlook is that ***“Normal total rainfall amounts are expected over most parts of Malawi during the 2012/2013 rainfall season”***. The updated rainfall outlook indicates that despite the poor start of 2012/2013 rainfall season the greater part of the country will still experience normal to above normal total rainfall amounts by end of March 2013.

This forecast covers the rainfall season from October 2012 to March 2013 and is relevant only to seasonal time-scales and relatively large areas. It does not fully account for local and month to month variations in distribution of rainfall such as localised dry spells and flash floods.

The seasonal forecast is issued to users as a planning tool. For day to day operations, users are advised to make use of the available short to medium range forecasts and the 10-day Rainfall and Agrometeorological bulletin issued by the Department.

4. OUTLOOK FOR 01 – 10 FEBRUARY 2013

Models for short and medium term weather forecasts suggest that both main rain-bearing systems namely Congo Air mass and Inter Tropical Convergence Zone will be active over Malawi during the first ten days of February 2013. Therefore, widespread continuous and locally heavy rains are expected to persist over Malawi. These rains will continue supporting on-farm agricultural activities and growth and development of crops in most parts of Malawi.

TABLE 1: DEKADAL RAINFALL FOR SELECTED STATIONS FOR DEKAD 3 OF JANUARY 2013: PERIOD 21 – 31ST

STATION NAME	DEKADAL TOTAL RAINFALL mm	DEKADAL NORMAL mm	DEKADAL TOTAL AS PERCENTAGE OF NORMAL	TOTAL TO DATE mm	NORMAL TO DATE mm	NORMAL TODATE AS PERCENTAGE OF NORMAL	RAINY DAYS ≥ 0.3 mm
SOUTHERN REGION							
Balaka Township	40.5	102.2	40	256.0	505.9	51	6
Bvumbwe Met.	99.0	106.7	93	536.1	607.2	88	6
Chancellor College	227.6	103.4	220	809.3	704.9	115	7
Chichiri Met.	81.6	53.8	152	717.9	794.8	90	6
Chikwawa Boma	159.4	74.5	214	490.4	462.4	106	7
Chikweo Agric.	147.3	98.7	149	520.5	595.3	87	8
Chileka Airport	35.6	81.3	44	520.7	498.0	105	4
Chingale Agric	95.2	90.7	105	570.8	517.7	110	5
Chiradzulu Agric	52.7	99.6	53	450.0	545.4	83	5
Chizunga Factory	152.5	92.2	165	462.3	736.9	63	6
Kasinthula Res. Stn.	55.7	62.5	89	412.3	387.3	106	4
Lujeri Tea Estate	204.7	134.8	152	1189.2	1076.1	111	8
Mpilipili	18.9	78.9	24	392.5	491.5	80	3
Makhanga Met	182.1	51.9	351	618.0	420.2	147	6
Makoka Met	132.1	89.6	147	395.5	548.4	72	6
Mangochi Met.	72.2	70.7	102	562.6	346.0	163	5
Masambanjati Agric	161.0	93.9	171	698.8	690.0	101	5
Mimosa Met.	188.3	117.1	161	860.6	772.6	111	7
Monkey Bay Met.	22.9	74.0	31	601.4	327.4	184	5
Mpemba Vet	135.5	95.8	141	642.9	641.1	100	5
Mulanje Boma	263.6	145.4	181	790.1	957.5	83	7
Mwanza Boma	20.3	94.4	22	418.9	565.9	74	1
Namiasi Agric	48.8	75.1	65	525.1	423.0	124	3
Naminjiwa Agric	125.0	96.5	130	735.9	554.6	133	6
Namwera Agric	77.7	100.3	77	580.2	572.1	101	5
Nchalo Sucoma	154.6	50.7	305	320.4	364.7	88	7
Neno Agric	203.6	103.0	198	733.8	613.9	120	5
Ngabu Met.	125.5	61.2	205	496.5	429.3	116	5
Ntaja Met.	83.7	91.4	92	560.5	496.0	113	7
Phalula Agric	93.7	74.1	126	429.8	481.1	89	5
Thuchila Agric	65.5	83.9	78	368.9	483.0	76	4
Thyolo Boma	161.5	91.2	177	573.4	606.3	95	7
Thyolo Met	166.1	103.9	160	453.2	621.6	73	6
Zomba RTC	213.2	107.3	199	750.8	667.0	113	8
CENTRAL REGION							
Bunda College	31.2	78.7	40	679.4	498.7	136	5
Chileka Namitete	73.3	86.9	84	517.2	532.8	97	6
Chitedze Met.	77.8	79.2	98	554.7	479.7	116	6
Dedza Met	75.8	102.1	74	546.4	507.6	108	9
Dowa Agric	89.9	92.4	97	451.5	486.4	93	6
Dwangwa Sugar Corp.	153.0	84.7	181	426.6	585.2	73	9
Dzonzi Forest	80.4	80.8	100	736.9	552.1	133	7
Kaluluma DTC	157.7	75.7	208	358.4	459.7	78	7
K.I.A Met	86.5	69.5	124	561.3	452.1	124	6
Kasiya Agric	58.0	67.3	86	475.0	540.7	88	3
Kasungu Met	59.3	70.0	85	397.1	414.2	96	5
Lifuwu	145.5	100.7	144	327.6	573.3	57	6
Lisasadzi	32.8	80.9	41	334.8	469.7	71	4
Malomo Agric	65.6	55.1	119	418.6	434.8	96	6
Madisi Agric	48.9	74.3	66	374.0	446.1	84	4
Mchinji Boma	97.7	79.2	123	476.2	586.7	81	5
Mkanda Met	15.7	71.0	22	355.3	503.5	71	4
Mlangeni Njolomole	63.2	73.6	86	572.2	512.1	112	6
Mponela Agric	58.5	77.2	76	411.0	427.4	96	6
Mtakataka Airwing	61.3	60.2	102	486.8	403.8	121	6
Nathenje Agric	46.2	90.8	51	517.4	459.7	113	4
Natural Res. College	35.2	74.6	47	438.7	489.9	90	5
Nkhotakota Met	95.3	97.8	97	604.2	626.7	96	7
Ntcheu - Nkhande	70.1	84.6	83	677.9	587.7	115	5
Ntchisi Boma	35.2	103.3	34	430.2	636.0	68	4
Salima Met	83.2	99.2	84	547.0	580.7	94	4
Dedza RTC	70.8	116.3	61	543.9	550.4	99	6
NORTHERN REGION							
Baka Res. Stn.	103.3	63.6	162	229.3	446.5	51	6
Bolero Met	159.1	53.3	298	523.8	343.5	152	8
Bwengu Agric.	131.8	74.0	178	421.1	406.9	103	10
Chikangawa forest	168.9	73.1	231	454.4	525.4	86	8
Chitipa Met	71.5	75.3	95	538.2	473.5	114	7
Chintheche Agric	197.3	91.6	215	657.4	655.7	100	4
Emfeni Agric	164.2	74.1	222	414.3	448.4	92	6
Euthini Agric.	123.3	58.9	209	466.5	408.1	114	7
Karonga Met.	84.7	56.0	151	325.0	387.7	84	6
Lupembe	147.9	56.7	261	394.9	332.4	119	5
Mbawa Res. Stn	64.4	63.2	102	487.2	440.8	111	8
Mzimba Met	163.7	68.6	239	451.4	476.3	95	7
Mzuzu Met.	253.5	68.9	368	557.0	476.0	117	8
NkhataBay Met.	201.1	64.2	313	919.9	539.0	171	9
Rumphi Boma	164.1	70.0	234	404.8	373.5	108	6
Vinthukutu Agric	76.5	58.8	130	721.7	441.2	164	5
Zombwe Agric	159.0	54.2	293	448.6	373.4	120	8

TABLE 2: AGROMETEOROLOGICAL PARAMETERS FOR THE PERIOD 21 TO 31 JANUARY 2013

STATION	MAX TEMP (°C)	MIN TEMP (°C)	ABS MAX (°C)	ABS MIN (°C)	WIND SPEED (m/s)	RH (%)	EVAP (mm)
KARONGA ADD							
Chitipa	27.3	18.4	30.6	16.7	2.0	77	N/A
Karonga	31.7	22.3	35.1	20.5	1.3	71	N/A
MZUZU ADD							
Bolero	28.3	21.3	31.5	15.6	N/A	81	N/A
Mzuzu	26.0	18.4	30.7	13.0	2.4	82	N/A
Mzimba	25.8	17.9	28.4	16.7	1.1	81	N/A
Nkhata Bay	29.4	21.8	33.7	20.3	0.7	83	N/A
KASUNGU ADD							
Kasungu	28.7	19.2	31.2	17.8	1.5	74	N/A
LILONGWE ADD							
KIA	25.8	18.0	27.8	11.2	1.4	77	5.3
Chitedze	26.7	18.6	28.6	16.9	1.0	79	N/A
Dedza	22.7	15.2	25.4	13.5	1.7	78	N/A
SALIMA ADD							
Salima	29.9	22.6	32.6	20.5	2.0	79	N/A
Nkhotakota	28.6	22.5	30.9	21.4	1.8	76	N/A
MACHINGA ADD							
Makoka	24.8	18.5	29.3	17.0	1.7	84	N/A
Ntaja	27.7	20.6	30.7	19.4	0.8	79	N/A
Mangochi	30.2	22.1	32.6	21.1	N/A	80	N/A
Monkey Bay	29.7	22.9	31.0	21.3	1.7	75	N/A
BLANTYRE ADD							
Chileka	26.4	20.8	30.0	19.3	2.3	82	N/A
Chichiri	26.8	20.2	27.8	17.5	1.0	84	N/A
Bvumbwe	23.3	17.5	26.4	14.6	1.5	86	N/A
Mimosa	27.1	20.2	31.5	14.6	1.0	85	3.3
SHIRE VALLEY ADD							
Ngabu	30.8	N/A	34.0	N/A	0.8	78	N/A

Glossary of some terms on this table

- RH = Relative Humidity
- Mean Temperature of the day = (Max of the day + Min of the same day)/2
- ABS Max (Min) = Absolute Maximum (minimum) is the highest (lowest) of maximum (minimum) temperatures observed for a given number of days (calendar month) of a specified period of months (years).
- convert Meters Per Second (mps) to Kilometers per hour (Km/hr) = mpsx3.6